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ABSTRACT

An attempt to develop a locus of control scale that would differentiate one's sense of control over events that are highly controllable from one's sense of control over events that are typically uncontrollable by the individual is described. It was hypothesized that the more remote events are from one's personal control (e.g., events in the lives of others, acts of nature, international events), the greater the likelihood that perceived control over the events will be non-adaptive. This study attempted to identify conceptual and quantitative clusters within the newly designed scale and to relate scores on these clusters to scores on the internal/external dimension of Rotter's Internal/External (I/E) scale. An attempt was also made to evaluate the convergent and divergent validity of the conceptual and quantitative clusters by assessing predicted relationships between these clusters and other physical and psychological measures included in a large test battery. Focus was on determining what clusters of events best differentiate adaptive from non-adaptive internality. The original 72-item scale and several established inventories, including the Rotter I/E scale, were given to approximately 930 students at the University of Tennessee (Knoxville), Pellissippi State Technical Community College, and Carson-Newman College (Jefferson City). Confirmatory and exploratory factor analyses were conducted on subject responses. After the factor analysis process, 34 items were retained in the scale. Several correlations between the factors of the revised instrument and other indicators of health showed that the perception of non-adaptive control was related to higher perceived stress. A table represents the rotated factor pattern. (SLD)

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DEVELOPMENT OF A PSYCHOMETRIC INSTRUMENT TO DISTINGUISH ADAPTIVE FROM NONADAPTIVE INTERNAL LOCUS OF CONTROL

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Development of a Psychometric Instrument to Distinguish Adaptive From Nonadaptive Internal Locus of Control

Locus of control is among the most researched and respected concepts in contemporary psychology. In general, an internal locus of control has been positively related to measures of physical and psychological health. Individuals who perceive the events in their lives as largely under their control function more effectively than those who perceive life events as largely controlled by factors outside themselves (e.g., powerful others, luck, change).

Despite the respected status of internal locus of control, questions have been raised regarding the presumed linearity between internality and life style effectiveness (e.g., Gilbert & Mangelsdorff, 1979; Krause & Stryker, 1984). Some research now indicates that extreme internality contributes to stress, thus reducing one's life style effectiveness. It appears that a moderate level of internality may be more functional than either externality or extreme internality.

A mediating variable in this relationship between internality and adjustment may be the type of event one presumes to control (Antonovsky, 1979; Wortman, 1976). If an event is essentially uncontrollable, internality with respect to such an event might be quite nonadaptive. Consequently, typology of event may be a critical variable in differentiating adaptive from nonadaptive internality. For example, it might be quite adaptive to assume that one has considerable control over personal events (e.g., one's health or one's job) but nonadaptive to assume that one has much control over events removed from one's personal purview (e.g., events in other's lives or international events). Notwithstanding the importance of the typology issue, virtually no attempt has

been made in the assessment of locus of control to differentiate categories of events which are generally uncontrollable from those which are highly controllable. Extreme internality may be nonadaptive only with respect to essentially uncontrollable events, not highly controllable events in one's life.

This current study represents an initial attempt to develop a locus of control scale that would differentiate one's sense of control over events which are highly controllable from events typically uncontrollable by the individual. It is hypothesized that the more remote events are from one's personal control (e.g., events in others' lives, acts of nature, international events), the greater the likelihood that perceived control over those events will be nonadaptive. The present study has two broad objectives: (a) identify both conceptual and quantitative clusters within the newly designed scale and relate scores on these clusters to scores on Rotter's internal-external dimension; (b) evaluate the convergent and divergent validity of the conceptual and quantitative clusters by assessing predicted relationships between these clusters and other physical and psychological measures included in a large test battery.

Method

The original 72 item instrument, along with several other well-established inventories (e.g., Rotter's I-E Scale, Self-Efficacy Scale, Life Satisfaction Index, Rand Health Status Scale, Health Habits Checklist, Life Orientation Test, Perceived Stress Scale, and the Marlowe-Crowne Scale), were given to approximately 930 students enrolled at The University of Tennessee - Knoxville, Pellissippi State Technical Community College, and Carson-Newman College. Participants were solicited from freshmen through graduate level courses cutting across a variety of content areas including psychology, psychological

measurement, child development, behavior management, and developmental study skills courses. All students were offered feedback relative to their scores on the various inventories and some students also received extra credit for their participation. Data were collected during Spring Semester 1989 and analysis of the data was begun in the Summer Semester 1989.

The 72 items on the original instrument, entitled the Personal Control Scale (PCS), were selected from an original list of 104 items (grouped in 26 categories of 4 similar items - 2 positive and 2 negative items) which were rated by 10 members of a Self-Management Research Group at UTK relative to the psychological healthfulness of perceived influence over each category of event. These raters used the same influence scale as was included in the current version of PCS: (1) no influence, (2) limited influence, (3) moderate influence, (4) major influence, (5) total influence. The average influence rating of these 10 judges were then computed for the 26 categories of events.

Ultimately, 18 categories (72 items) reflecting a broad spectrum of projected levels of influence for a healthy person were included in the scale. Items in each category were separated and randomly distributed throughout the total scale. The categories reflected in PCS ranged from acts of nature (average rating of 1 - no influence) to personal addictions (average rating of 4.2 - major influence). Items which had been rated from 1 to 1.9 were designated as Subscale I (perception of high personal influence considered nonadaptive); items which had been rated from 2 to 2.9 were designated as Subscale II (perception of high personal influence considered somewhat adaptive); and items which had been rated 3 and above were included in Subscale III (perception of high personal influence considered quite adaptive. The original version of the PCS included 20 items in Subscale I, 20 items in Subscale II, and 32 items in Subscale III.

The major objective of this study was to determine what clusters of events best differentiate adaptive from nonadaptive internality. Two types of factor analysis were conducted on subject responses: (a) confirmatory - to determine the degree to which the three conceptual categories were supported by the empirical data; (b) exploratory - to determine what quantitative clusters would best describe the data irrespective of the original grouping of items by subscales.

Results

A series of four factor analyses were conducted on the PCS. The factor analysis method utilized was principal components with varimax rotation. After each factor analysis run, if a test item did not load with a .50 or higher on any factor, it was dropped from the instrument. Quantitative clusters began to appear after the first factor analysis. After the fourth factor analysis, thirty-four items remained. These items loaded on six factors. Factor one had seventeen items and these consisted of the originally conceptualized items of which a perception of high personal influence was considered to be nonadaptive (Subscale I). The remaining five factors consisted of the originally conceptualized items of which a perception of high personal influence was considered to be quite adaptive (Subscale III). All the items in the original Subscale II were dropped due to nonsignificant loadings during the factor analyses. Therefore, thirty-four items remained in the instrument after the factor analysis process.

There were several correlations at a significant level between the factors of the revised instrument and other indicators of health. To mention just a few, there is a .209 correlation between the adaptive control measures and the LSATOT. There is a -.259 correlation between the adaptive measures and the Rotter Locus of Control Scale. (The higher the Rotter score the more external

the LOC). Both of these scores are significant at the .0001 level. Another correlation of importance was between perceived stress and the adaptive control. There was a -.174 correlation between these two measures (.0001). Thus, perception of nonadaptive control is related to higher perceived stress.

Attached is a sample of the items and the factor loadings of this new inventory - The Personal Control Scale.

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Rotated Factor Pattern

Factor 1 - LO-C

0.58655	1.	My area has a week of beautiful weather.
0.69224	2.	Russia removes its military presence from a neighboring nation.
0.78477	8.	Human violence decreases world-wide.
0.78199	11.	Disease decreases world-wide.
0.83375	24.	The threat of a world-wide famine increases.
0.79247	28.	The unemployment rate is very low in my country.
0.71681	29.	A heavy windstorm occurs in my area.
0.81921	30.	The number of homeless individuals increases world-wide.
0.78560	33.	War breaks out between Latin American nations.
0.73791	34.	A much needed rain occurs in my area.
0.79808	35.	Criminal activity increases in my area.
0.76897	36.	My area has an extended drought.
0.78242	40.	The stock market crashes in my country.
0.82580	52.	My country has a period of economic prosperity.
0.75805	55.	A peace settlement is reached in the Middle East.
0.83212	61.	Inflation reaches an all time high in my country.
0.69111	64.	Several acts of terrorism occur in Europe.

Factor 2 - LL-HC

0.64351	9.	I die in mid-life.
0.77951	17.	I live longer than both of my parents.
0.75695	45.	My life is shorter than my parents' lives.
0.71705	58.	I live to an advanced age.

Factor 3 - SA-HC

0.70827	4.	I become an alcoholic.
0.65586	44.	I have no dependency on drugs.
0.68447	65.	I have no desire for alcohol.
0.72799	68.	I become hooked on certain drugs.

Factor 4 - JR-HC

0.76141	51.	My income increases substantially.
0.61482	53.	I have too many responsibilities at work.
0.74612	57.	I have lots of job security.

Factor 5 - PR-HC

0.80254	12.	I become estranged from a longstanding friend.
0.56815	20.	Others are often antagonostic toward me.
0.70675	47.	I become reconciled with a previously estranged friend.

Factor 6 - IS-HC

0.71391	14.	I seldom receive help from others when I really need it.
0.81306	23.	Others come to my assistance when I really need help.
0.61923	42.	Others usually treat me very cordially.